

AMENDMENTS TO THE CLAIMS

Please amend claims 1-16 and 19-23, such that the status of the claims is as follows:

1. (Currently amended) A magnetic ~~write~~ element comprising at least one layer of a nanophase magnetic material incorporating nanoclusters and having a high magnetic saturation moment material of greater than 2.4 T.

2. (Currently amended) The magnetic ~~write~~ element of claim 1 wherein the nanophase ~~high magnetic moment~~ material includes coated magnetic nanoclusters containing approximately 200 to 800 atoms per nanocluster.

3. (Currently amended) The magnetic ~~write~~ element of claim 1 wherein the nanophase ~~high magnetic moment~~ material comprises nanoclusters of magnetic materials selected from the group consisting of: Fe, Mn, Co, Ni and alloys thereof.

4. (Currently amended) The magnetic ~~write~~ element of claim 3 wherein the nanoclusters are coated in flight with a magnetic material selected from the group consisting of: Fe, Mn, Ni, Co and alloys thereof.

5. (Currently amended) The magnetic ~~write~~ element of claim 3 wherein the nanoclusters are adsorbed with an electron-donating material selected from the group consisting of: hydrogen and nitrogen.

6. (Currently amended) The magnetic ~~write~~ element of claim 1 wherein the nanophase ~~high magnetic moment~~ material comprises a nano-laminated cluster film.

7. (Currently amended) The magnetic ~~write~~ element of claim 6 wherein the nano-laminated cluster film comprises:

at least one layer of nanoclusters of magnetic material with ~~high~~ magnetic saturation moments greater than 2.4 T; and
a plurality of matrix layers wherein the nanocluster layers are approximately alternating with the matrix layers.

8. (Currently amended) The magnetic ~~write~~ element of claim 7 wherein the magnetic materials are selected from the group consisting of: Fe, Mn, Ni, Co and alloys thereof.

9. (Currently amended) The magnetic ~~write~~ element of claim 7 wherein the matrix is a vacuum-deposited magnetic material.

10. (Currently amended) The magnetic ~~write~~ element of claim 7 wherein the matrix is formed of a material selected from the group consisting of: Co, Fe and alloys thereof.

11. (Currently amended) The magnetic ~~write~~ element of claim 7 wherein the number of nanocluster layers and matrix layers is approximately between 2 and 15.

12. (Currently amended) The magnetic write element of claim 1 wherein the nanophase ~~high~~ magnetic ~~moment~~ material forms part of a write pole.

13. (Currently amended) The magnetic ~~write~~ element of claim 1 wherein the nanophase ~~high~~ magnetic ~~moment~~ material forms an SUL layer of perpendicular recording media.

14. (Currently amended) A ~~transducing head~~ magnetic write element having a write gap, the element comprising:

a bottom pole;

a first ~~high magnetic moment~~ layer located upon the bottom pole at the write gap, wherein the first ~~high magnetic moment~~ layer includes nanophase ~~high magnetic moment~~ material incorporating nanoclusters having a magnetic saturation moment of greater than 2.4 T; and

a second ~~high magnetic moment~~ layer adjacent to the write gap opposite to the first magnetic ~~moment~~ layer, wherein the second magnetic ~~moment~~ layer includes nanophase ~~high magnetic moment~~ material incorporating nanoclusters and having a magnetic saturation moment of greater than 2.4 T, and

a third magnetic layer plated upon the second magnetic ~~moment~~ layer thereby forming a top pole.

15. (Currently amended) The magnetic write element of claim 14 wherein the nanophase ~~high magnetic moment~~ material comprises coated magnetic nanoclusters.

16. (Currently amended) The magnetic write element of claim ~~[[14]]~~ 15 wherein the coated magnetic nanoclusters comprise nanoclusters of magnetic materials selected from the group consisting of: Fe, Mn, Co, Ni and alloys thereof.

17. (Original) The magnetic write element of claim 16 wherein the nanoclusters are coated in flight with a magnetic material selected from the group consisting of: Fe, Mn, Ni, Co and alloys thereof.

18. (Original) The magnetic write element of claim 16 wherein the nanoclusters are adsorbed with an electron-donating material selected from the group consisting of: hydrogen and nitrogen.

19. (Currently amended) The magnetic write element of claim 14 wherein the nanophase ~~high magnetic moment~~ material[[s]] comprises nano-laminated cluster film.

20. (Currently amended) The magnetic write element of claim 19 wherein the nano-laminated cluster film comprises:

at least one layer of nanoclusters of magnetic material with ~~high~~ magnetic saturation moments greater than 2.4 T; and
a plurality of matrix layers wherein the nanocluster layers are approximately alternating with the matrix layers.

21. (Currently amended) The magnetic write element of claim 20 wherein the magnetic materials are selected from the group consisting of: Fe, Mn, Ni, Co and alloys thereof.

22. (Currently amended) The magnetic write element of claim [[19]] 20 wherein the matrix is a vacuum-deposited magnetic moment enhancing material.

23. (Currently amended) The magnetic write element of claim [[19]] 20 wherein the matrix is formed of a material selected from the group consisting of: Co, Fe and alloys thereof.